MODIS sensor Working Group (MsWG) Summary July 28, 2004

Attendance: Bill Barnes, Bob Barnes, Stuart Biggar, Vincent Chiang, Gene Eplee, Hector Erives, Gerhard Meister, Chris Moeller, Gary Toller, Zhengming Wan, Robert Wolfe, Jack Xiong

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Scheduled Agenda

Item 1: Instrument operation

JX) Terra and Aqua both are nominal. Terra's noise patterns stay the same. Roger looked at the engineering data and thought the problem could be detector itself. That means changing the focal plane bias of Itwk/Vdet on electronic won't bring those detectors back.

Item 2: L1B LUT delivery

(1) Terra V4.3.0.12 (July 02) is a regular m1 update to DAAC. (2) Terra V4.3.0.13 (July 22) is a regular m1 and RSB RVS update to DAAC. (3) Terra special RSB RVS fit using SD and Moon data V4.3.0.9_OC_2 (July 7) for Ocean Color group testing.

Item 3: Collection 5 in L1B

JX) We plan to have two code changes in L1B (will file PCR). (1) Band 21 fixed gain b1 is using detector dependent LUT for both mirror sides. The new approach will increase to 20 coefficients from 10 coefficients in the LUT and code by adding the flexibility of mirror side. (2) The other change is to improve flexibility in SWIR OOB correction by adding a new LUT to specify different sending detector for the correction.

JX) Atmosphere presented de-striping technique for L1B products. It can be used for high level products but will not be in the L1B for collection 5.

Bob) I don't think Ocean group has anything for L1B code change.

CM) Nothing from Atmosphere has come up. The de-striping will mostly rely on individual to evaluate the improvement.

ZW) We have not used the de-striping yet. Our products are in 5 by 5Km then we do interpolation into pixel level.

RW) From the STM, Eric is more interested in de-striping, most likely a post process for Land bands, for example B7.

Around the Table

Participant: Chris Moeller – SWIR Band 5; Sub-frame behavior in Band 2

CM) I see Band 5 striping is a function of signal. Is that something we can change the slope of the gain?

Bill) There is also a discussion on the Ocean non-linearity. Is that already in the L1B or can we add that into the code?

JX) This (nonlinear term) probably will not happen for collection 5. There are some concerns on doing this in reflectance or in radiance base. As for the SWIR cross talk, the nighttime data can give limited linear relationship for correction. However, L1B does have the nonlinear SWIR correction capability reserved.

Bill) That means for collection 5, we only need to change the LUT but not the code for SWIR OOB correction if we want to do it non-linearly.

CM) On Terra Band 2 (250m band), detectors 28 and 29 display anomaly for every 4 sub-frame. This has been there for some time.

Bill) There is an integration timing issue here. Bands 1 and 2 reset 4 times every frame and Bands 3-7 reset twice while 1Km bands only reset at the end of each frame.

JX) Could you send us the slides for this?

Participant: Gerhard Meister – RVS

GM) Question on RSB RVS. If m1 changes, should RVS need to be changed too?

JX) RSB RVS updates less frequently than m1. RVS updates once a month mostly and it does not need to update if m1 is updated. But if you refit m1, then RVS needs to be refitted.

CM) For TEB RVS, do we get another chance to do DSM at the end of the Terra mission?

Bill) Not on the paper yet. Take TRMM for an example, we will love to have another DSM at the end before the instrument is shutdown. But they have not told us we could do yet.

Participant: Robert Wolfe and Gene Eplee – SD simulation on Aqua SD door issue

GE) Chuck and Fred were discussing this today.

JX) Please let us know the discussion or any progress. MCST will follow up with you.

Participant: Stuart Biggar – MISR comparison

SB) I started to look at recent MISR and MODIS data for comparison. How is MCST telecon discussion with MISR group?

JX) We do have good agreement in Bands 1 and 2, and some disagreement in Bands 3 and 4. We paused there until they have got new results.

The SPIE meeting is in Denver next week. Next MsWG meeting scheduled on August 11, 2004